



STATE OF TENNESSEE  
**DEPARTMENT OF ENVIRONMENT AND CONSERVATION**  
**DIVISION OF WATER RESOURCES**  
Johnson City Environmental Field Office  
2305 Silverdale Road  
Johnson City, Tennessee, 37601  
Phone 423-854-5400 Statewide 1-888-891-8332 Fax 423-854-5401

May 18, 2017

Mr. Roger Warner, President  
Bloomingtondale Utility District  
3212 Bloomingtondale Pike  
Kingsport, TN 37660

RE: **Sanitary Survey of Community Water System**  
Bloomingtondale Utility District  
PWSID# 0000056  
Sullivan County

Dear Mr. Warner:

On April 12, 13, and 21, personnel from the Division of Water Resources (DWR) visited Bloomingtondale Utility District and performed a Sanitary Survey. The Survey consisted of a records review to document the operational performance of the system and an on-site inspection of the water treatment and distribution systems. The Survey covered the time period from April 2015 – March 2017. The Division would like to thank you for your courtesy, willingness to work with the Division, and timely responses to Division requests. In accordance with the Sanitary Survey Manual, Bloomingtondale Utility District earned 593 points out of a possible 599 points for a numerical score of ninety-eight percent (98%). This rating retains Bloomingtondale Utility District in the State's "**Approved**" category.

The following deficiencies, comments, and/or recommendations as outlined in the Sanitary Survey Rating Form were identified during the Survey and should be addressed as applicable:

**1. Section 8: Distribution and Cross Connections**

- **Subsection A. Notification, Inspection and Disinfection of New or Existing Facilities**

Division Rule 0400-45-01-.17(8)(a) requires that public water systems, construction contractors, and engineers follow and document sanitary practices used in inspecting, constructing, or repairing water lines, finished water storage facilities, filters, and wells.

A review of the department's new line disinfection records indicated a failure to adequately document new line disinfection methods and procedures. New line records do not include the dates and times of flushing activities that are required to verify that the contact time has been met. **Three (3) points have been deducted from the Sanitary Survey score for this deficiency.** The system began, more recently, adding the dates of flushing and sampling to the bottom of the new line records. The system should continue to document the dates, and should begin documenting the times of flushing on the new line records. The system should also ensure that flushing information is included on each repair record that is not repaired under pressure. A different version of the New Line Disinfection Log has been included with this Survey. The system may choose to use this disinfection form for documentation if preferred.

## **2. Section 8: Distribution and Cross Connections**

- **Subsection B. Flushing Program/ Blow Offs**

Division Rule 0400-45-01-.17(23) requires that all dead end water mains and all low points in water mains be equipped with a blow-off or other suitable flushing mechanism capable of producing velocities adequate to flush the main.

Currently, there are dead end water mains in the distribution system that are not equipped with proper flushing devices. **Three (3) points have been deducted from the Survey score for this deficiency.** The system installs these devices on all new lines and continues to install the devices on pre-existing lines as they perform repairs.

## **3. Section 8: Distribution and Cross Connections**

- **Subsection C. Fire Hydrants**

Division Rule 0400-45-01-.17(18) requires that, at least once every five years, water systems must provide certified mail notification to each fire department that may use the hydrants of color coding and use restrictions pursuant to regulation.

The system provided hydrant color coding letters to each fire department that may use the hydrants on April 26, 2013. These letters, however, were not sent by certified mail. The system is reminded that, in the future, the letters must be sent using certified mail.

## **General Observations, Comments, and Other Recommendations**

### **4. Section 1: System Management and Operation**

- **Subsection A. Record Keeping**

The system maintains an organized customer complaint log. This complaint log included water quality issues reported in the distribution system, along with all required information about each individual complaint. Water quantity issues, such as no water and low pressure complaints, were being kept as work orders. Although kept separately, these records also included all required information.

### **5. Section 5: Monitoring and Data Verification**

- **Subsection A. Laboratory Process Monitoring**

Bloomingtondale Utility District has been conducting daily bacteriological analyses on finished water at the water treatment plant before it enters the distribution system. Bacteriological analyses of finished water at the Reedy Creek plant are not required. Bloomingtondale Utility District has the option to continue testing if preferred, but the analyses are not included in the Drinking Water Monitoring Program for the system.

- **Subsection I. Lead and Copper Monitoring**

All water systems must monitor for lead and copper according to regulation based on population.

The system last monitored for lead and copper between August 12 and August 18, 2014. Thirty (30) sites within the distribution system were tested. The samples collected met the 90<sup>th</sup> percentile requirement, with no detection of elevated lead or copper levels at any of the sites. The next round of monitoring will be required in 2017.

Again, I would like to thank Bloomingtondale Utility District personnel for their assistance and courtesy during the Sanitary Survey. If you have any questions or need additional information, please contact me at the Johnson City Environmental Field Office at (423) 854-5451.

Sincerely,



Macy Brummitt, Environmental Scientist 2  
Division of Water Resources  
Johnson City Environmental Field Office  
(423) 854-5432  
[Macy.Brummitt@tn.gov](mailto:Macy.Brummitt@tn.gov)

Mr. Roger Warner, President  
May 18, 2017  
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Reviewed by:



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Kevin Rice, Program Coordinator  
Division of Water Resources  
Johnson City Environmental Field Office  
(423) 854-5462  
[Kevin.Rice@tn.gov](mailto:Kevin.Rice@tn.gov)

cc: Mr. Fred Hicks, Operator/Manager  
Mr. Mike Cradic, Chief Treatment Operator  
Mr. Bill Rhoton, Chief Distribution Operator  
Mrs. Freda Crutchfield, DWR (via email, [Freda.Crutchfield@tn.gov](mailto:Freda.Crutchfield@tn.gov))  
DWR/JCEFO File #0000056  
DWR Waterlog Database

## Sanitary Survey Rating

PWSID: 0000056

Water System Name: Bloomingdale Utility District

Survey Date: Apr 12, 2017

System Category (Points): 599

421 - Consecutive Systems/Distribution Only  
488 - Treatment Systems/Wholesalers  
599 - Both Treatment and Distribution

### 1. System Management and Operation (94 )

Requirement	Points Range	Deduction	Comments
A. Record Keeping 0400-45-01-.20	(0)	Narrative	Pg. 2- Water quality and quantity complaints should be recorded in the complaint log
B. Construction Projects 0400-45-01-.05, 0400-45-01-.17	(1-5)	0	
C. Submission of Monthly Operations Reports 0400-45-01-.17	(0)	Narrative	
D. Reporting Requirements 0400-45-01-.18	(4-30)	0	
E. Public Notification 0400-45-01-.19	(3-10)	0	
F. Facility Maintenance Fee	(0)	Narrative	
G. Enforcement – TCA §68-221-701 et seq.	(4-10)	0	
H. Emergency Operations Plan 0400-45-01-.17	(3)	0	
	Deficiency Subtotal	0	

### 2. Operator Compliance (23)

Requirement	Points Range	Deduction	Comments
A. Certified Operator – Plant and Distribution System 0400-45-01-.17(1) and 0400-49-01-.04	(3-15)	0	
	Deficiency Subtotal	0	

### 3. Source (25)

Requirement	Points Range	Deduction	Comments
A. Source Adequacy 0400-45-01-.02, .05, .16, .17(13) and .34(3)	(3-5)	0	
B. Intake 0400-45-01-.05, .17	(2)	0	
C. Wellhead/Springbox Construction 0400-45-01-.05(12), .16 and .17(3) and (16)	(2)	0	
D. Source Protection Plans 0400-45-01-.34	(1-2)	0	
	Deficiency Subtotal	0	

#### 4. Treatment (153)

<u>Requirement</u>	<u>Points Range</u>	<u>Deduction</u>	<u>Comments</u>
A. Aerator 0400-45-01-.05, .17	(2)	0	
B. Chemicals/Chemical Feeders 0400-45-01-.05(8), and .17, .36	(2)	0	
C. Mixing 0400-45-01-.02, .05, .17	(2)	0	
D. Flocculation 0400-45-01-.02, .05, .17	(2)	0	
E. Sedimentation 0400-45-01-.02, .05, .17	(2)	0	
F. Filtration/Alternative Technology 0400-45-01-.17(12) and (27)	(2-30)	0	
G. Re-wash/Filter-to-waste 0400-45-01-.17 (35)	(2)	0	
H. Turbidimeters/Calibration 0400-45-01-.05 (11).17, .31, .39	(2-4)	0	
I. Disinfection 0400-45-01-.02, .17, .31, .36	(2-30)	0	
J. Disinfection Contact Time 0400-45-01-.02, .17, .31	(2-4)	0	
K. Master Meter 0400-45-01-.17 (2) and (3)	(1-2)	0	
L. Maintenance of Equipment, Buildings and Grounds 0400-45-01-.02, .17(3), (17) and (19)	(1)	0	
M. Laboratory Facilities 0400-45-01-.02, .14, .17(3)	(1-3)	0	
N. Safety 0400-45-01-.02	(2)	0	
O. Sludge Handling/Backwash Handling 0400-45-1-.05	(2)	0	
P. Sanitary Conditions 0400-45-01-.17 (17)	(2)	0	
Q. Fluoridation Techniques 0400-45-01-.06, .12, .17	(2)	0	
R. Design Capacity 0400-45-01-.05 (10)	(2-4)	0	
S. Filter Backwash Recycling 0400-45-01-.31 (9)	(1)	0	
	Deficiency Subtotal	0	

**5. Monitoring, Data Verification and Compliance (175)**

Requirement	Points Range	Deduction	Comments
A. Laboratory-Process Monitoring (excluding Turbidity and Chlorine Residual) 0400-45-01-.17(3)	(5)	0	Pg. 3- Bacteriological samples are not required on finished water at treatment plant
B. Bacteriological Monitoring	(2-6)	0	
C. Bacteriological Compliance 0400-45-01-.06	(4-7)	0	
D. Turbidity Monitoring	(2-3)	0	
E. Turbidity Compliance	(4-7)	0	
F. Chlorine Residual Monitoring 0400-45-01-.17, .31, .36	(2-3)	0	
G. Primary Chemicals Monitoring	(2-3)	0	
H. Primary Chemicals Compliance	(4)	0	
I. Lead and Copper Monitoring 0400-45-01-.33	(2-3)	0	
J. Lead and Copper Action Level 0400-45-01-.33	(3-5)	0	
K. Disinfection/Disinfection By-Products and Precursors Monitoring 0400-45-01-.36, .37, .38	(2-3)	0	
L. Disinfection/Disinfection By-Products and Precursors Compliance 0400-45-01-.06, .36	(2-30)	0	
M. Secondary Chemicals 0400-45-01-.12	(2)	0	
N. Secondary Chemicals Compliance 0400-45-01-.12	(3)	0	
O. Cryptosporidium Monitoring 0400-45-01-.39	(0)	Narrative	
	Deficiency Subtotal	0	

**6. Finished Water Storage (25)**

Requirement	Points Range	Deduction	Comments
A. Adequate Storage 0400-45-01-.17 (14)	(2-4)	0	
B. Inspection and Maintenance of Reservoirs, Tanks and Clearwell 0400-45-01-.17 (16), (17), (33) and (34)	(1-10)	0	All tanks are due for inspection by December 27, 2017.
	Deficiency Subtotal	0	

**7. Pumps, Pump Facilities and Controls (18)**

Requirement	Points Range	Deduction	Comments
A. Pump Facilities 0400-45-01-.17 (9) and (13)	(1-4)	0	
B. Maintenance of Pumping Equipment 0400-45-01-.17(13)	(1-3)	0	
	Deficiency Subtotal	0	

**8. Distribution System and Cross Connection Controls (86)**

Requirement	Points Range	Deduction	Comments
A. Notification, Inspection, Disinfection and Sample Collection of New or Existing Facilities 0400-45-01-.17 (8) and (19)	(3-5)	3	Pg. 1- New line records do not adequately document disinfection procedures
B. Flushing Program/Blow Offs 0400-45-01-.17(10) and (23)	(3-4)	3	Pg. 2- Blow offs are not installed on all dead end lines.
C. Fire Hydrants 0400-45-01-.17 (18)	(0)	Narrative	Pg. 2- Letters must be mailed using certified mail
D. Adequate Pressure 0400-45-01-.17 (9)	(5)	0	
E. Map of Distribution System 0400-45-01-.17 (15)	(3)	0	
F. Approved Cross Connection Policy or Ordinance and Plan 0400-45-01-.17 (6)	(4)	0	
G. Working Cross Connection Program 0400-45-01-.17(6)	(3-9)	0	
H. Unaccounted Water Loss	(0)	Narrative	
	Deficiency Subtotal	6	

Total Deficiency Points: 6

Points Available: 599

Overall Rating: 98

Points Available

421 - Consecutive Systems/Distribution Only

488 - Treatment Systems/Wholesalers

599 - Both Treatment and Distribution

Inspector: Macy Brummitt



Additional Comments/Explanations: